Column: India\_8 2010-01-01 - 2018-02-16

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2119  
Model: ARIMA(0, 1, 0) Log Likelihood -6209.374  
Date: Mon, 20 May 2024 AIC 12420.747  
Time: 20:01:14 BIC 12426.406  
Sample: 0 HQIC 12422.819  
 - 2119   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 20.6061 0.152 135.792 0.000 20.309 20.903  
===================================================================================  
Ljung-Box (L1) (Q): 3.97 Jarque-Bera (JB): 95254.49  
Prob(Q): 0.05 Prob(JB): 0.00  
Heteroskedasticity (H): 0.06 Skew: -0.66  
Prob(H) (two-sided): 0.00 Kurtosis: 35.83  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2119  
Model: ARIMA(3, 1, 0) Log Likelihood -6160.218  
Date: Mon, 20 May 2024 AIC 12336.435  
Time: 20:01:14 BIC 12381.701  
Sample: 0 HQIC 12353.008  
 - 2119   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 0.0219 0.077 0.286 0.775 -0.128 0.172  
x2 -0.0040 0.001 -2.831 0.005 -0.007 -0.001  
x3 -0.0364 0.250 -0.146 0.884 -0.526 0.453  
x4 2.0691 0.368 5.624 0.000 1.348 2.790  
ar.L1 0.0134 0.018 0.723 0.469 -0.023 0.050  
ar.L2 0.1179 0.013 9.066 0.000 0.092 0.143  
ar.L3 0.0075 0.017 0.451 0.652 -0.025 0.040  
sigma2 19.6749 0.195 100.859 0.000 19.293 20.057  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 82332.32  
Prob(Q): 0.99 Prob(JB): 0.00  
Heteroskedasticity (H): 0.07 Skew: -0.85  
Prob(H) (two-sided): 0.00 Kurtosis: 33.50  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_8 2018-02-16 - 2020-03-17

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 541  
Model: ARIMA(0, 1, 0) Log Likelihood -1232.800  
Date: Mon, 20 May 2024 AIC 2467.599  
Time: 20:01:14 BIC 2471.891  
Sample: 0 HQIC 2469.278  
 - 541   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 5.6296 0.092 60.912 0.000 5.448 5.811  
===================================================================================  
Ljung-Box (L1) (Q): 83.46 Jarque-Bera (JB): 14907.36  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 2.44 Skew: 2.69  
Prob(H) (two-sided): 0.00 Kurtosis: 28.17  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 541  
Model: ARIMA(3, 1, 0) Log Likelihood -1151.301  
Date: Mon, 20 May 2024 AIC 2318.602  
Time: 20:01:14 BIC 2352.934  
Sample: 0 HQIC 2332.029  
 - 541   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 0.0416 0.050 0.832 0.406 -0.056 0.140  
x2 -0.0019 0.000 -4.088 0.000 -0.003 -0.001  
x3 -0.1179 0.233 -0.506 0.613 -0.574 0.338  
x4 0.5396 0.418 1.291 0.197 -0.279 1.359  
ar.L1 0.2678 0.029 9.389 0.000 0.212 0.324  
ar.L2 0.2392 0.040 5.959 0.000 0.161 0.318  
ar.L3 0.2077 0.043 4.787 0.000 0.123 0.293  
sigma2 4.1689 0.121 34.394 0.000 3.931 4.406  
===================================================================================  
Ljung-Box (L1) (Q): 0.04 Jarque-Bera (JB): 4915.40  
Prob(Q): 0.83 Prob(JB): 0.00  
Heteroskedasticity (H): 1.17 Skew: 1.88  
Prob(H) (two-sided): 0.31 Kurtosis: 17.30  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_8 2020-03-17 - 2023-11-02

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 946  
Model: ARIMA(0, 1, 0) Log Likelihood -2541.179  
Date: Mon, 20 May 2024 AIC 5084.358  
Time: 20:01:14 BIC 5089.209  
Sample: 0 HQIC 5086.207  
 - 946   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 12.6832 0.079 161.302 0.000 12.529 12.837  
===================================================================================  
Ljung-Box (L1) (Q): 63.68 Jarque-Bera (JB): 469114.84  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.35 Skew: 5.16  
Prob(H) (two-sided): 0.00 Kurtosis: 111.66  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 946  
Model: ARIMA(3, 1, 0) Log Likelihood -2477.799  
Date: Mon, 20 May 2024 AIC 4971.597  
Time: 20:01:14 BIC 5010.407  
Sample: 0 HQIC 4986.388  
 - 946   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 0.0707 0.040 1.767 0.077 -0.008 0.149  
x2 -0.0023 0.000 -5.074 0.000 -0.003 -0.001  
x3 -0.5025 0.203 -2.470 0.014 -0.901 -0.104  
x4 0.9782 0.453 2.157 0.031 0.089 1.867  
ar.L1 0.3028 0.014 21.057 0.000 0.275 0.331  
ar.L2 0.0594 0.020 2.905 0.004 0.019 0.099  
ar.L3 0.1143 0.021 5.533 0.000 0.074 0.155  
sigma2 11.2191 0.136 82.479 0.000 10.952 11.486  
===================================================================================  
Ljung-Box (L1) (Q): 2.81 Jarque-Bera (JB): 209618.95  
Prob(Q): 0.09 Prob(JB): 0.00  
Heteroskedasticity (H): 0.55 Skew: 1.88  
Prob(H) (two-sided): 0.00 Kurtosis: 75.87  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_36 2010-01-01 - 2012-05-31

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 628  
Model: ARIMA(0, 1, 0) Log Likelihood -2349.137  
Date: Mon, 20 May 2024 AIC 4700.274  
Time: 20:01:14 BIC 4704.715  
Sample: 0 HQIC 4702.000  
 - 628   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 105.1523 0.648 162.190 0.000 103.882 106.423  
===================================================================================  
Ljung-Box (L1) (Q): 0.75 Jarque-Bera (JB): 718478.81  
Prob(Q): 0.39 Prob(JB): 0.00  
Heteroskedasticity (H): 9.90 Skew: 9.33  
Prob(H) (two-sided): 0.00 Kurtosis: 167.78  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 628  
Model: ARIMA(3, 1, 0) Log Likelihood -2314.195  
Date: Mon, 20 May 2024 AIC 4646.390  
Time: 20:01:14 BIC 4686.359  
Sample: 0 HQIC 4661.918  
 - 628   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 -0.3230 0.436 -0.741 0.459 -1.178 0.532  
x2 -0.0090 0.011 -0.808 0.419 -0.031 0.013  
x3 -2.3936 1.719 -1.392 0.164 -5.763 0.976  
x4 10.6308 3.202 3.320 0.001 4.355 16.906  
x5 -0.0240 0.024 -0.994 0.320 -0.071 0.023  
ar.L1 -0.0744 0.050 -1.477 0.140 -0.173 0.024  
ar.L2 -0.0839 0.045 -1.853 0.064 -0.173 0.005  
ar.L3 -0.0575 0.057 -1.003 0.316 -0.170 0.055  
sigma2 94.0811 1.176 79.993 0.000 91.776 96.386  
===================================================================================  
Ljung-Box (L1) (Q): 0.01 Jarque-Bera (JB): 1155270.15  
Prob(Q): 0.92 Prob(JB): 0.00  
Heteroskedasticity (H): 13.17 Skew: 11.09  
Prob(H) (two-sided): 0.00 Kurtosis: 212.11  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_36 2012-05-31 - 2014-09-23

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 602  
Model: ARIMA(0, 1, 0) Log Likelihood -2067.649  
Date: Mon, 20 May 2024 AIC 4137.298  
Time: 20:01:14 BIC 4141.696  
Sample: 0 HQIC 4139.010  
 - 602   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 56.9894 1.435 39.707 0.000 54.176 59.802  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 1827.94  
Prob(Q): 1.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.05 Skew: -0.21  
Prob(H) (two-sided): 0.00 Kurtosis: 11.53  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 602  
Model: ARIMA(3, 1, 0) Log Likelihood -2025.664  
Date: Mon, 20 May 2024 AIC 4069.327  
Time: 20:01:14 BIC 4108.915  
Sample: 0 HQIC 4084.737  
 - 602   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 -0.9360 0.230 -4.074 0.000 -1.386 -0.486  
x2 -0.0229 0.005 -4.340 0.000 -0.033 -0.013  
x3 -2.1375 1.008 -2.121 0.034 -4.113 -0.162  
x4 5.7433 1.251 4.592 0.000 3.292 8.195  
x5 0.0166 0.016 1.050 0.294 -0.014 0.048  
ar.L1 -0.0419 0.035 -1.189 0.234 -0.111 0.027  
ar.L2 0.0349 0.037 0.944 0.345 -0.038 0.107  
ar.L3 0.0196 0.034 0.581 0.562 -0.047 0.086  
sigma2 49.5443 1.784 27.766 0.000 46.047 53.042  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 1365.81  
Prob(Q): 0.97 Prob(JB): 0.00  
Heteroskedasticity (H): 0.08 Skew: -0.46  
Prob(H) (two-sided): 0.00 Kurtosis: 10.33  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_36 2014-09-23 - 2023-06-07

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2270  
Model: ARIMA(0, 1, 0) Log Likelihood -6851.961  
Date: Mon, 20 May 2024 AIC 13705.922  
Time: 20:01:14 BIC 13711.649  
Sample: 0 HQIC 13708.011  
 - 2270   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 24.5762 0.127 194.200 0.000 24.328 24.824  
===================================================================================  
Ljung-Box (L1) (Q): 58.92 Jarque-Bera (JB): 397307.21  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.76 Skew: 3.08  
Prob(H) (two-sided): 0.00 Kurtosis: 67.53  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2270  
Model: ARIMA(3, 1, 0) Log Likelihood -6612.434  
Date: Mon, 20 May 2024 AIC 13242.868  
Time: 20:01:14 BIC 13294.411  
Sample: 0 HQIC 13261.673  
 - 2270   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 -0.3004 0.041 -7.368 0.000 -0.380 -0.221  
x2 -0.0085 0.000 -17.756 0.000 -0.009 -0.008  
x3 0.3085 0.202 1.528 0.127 -0.087 0.704  
x4 2.0740 0.358 5.796 0.000 1.373 2.775  
x5 0.0058 0.003 1.711 0.087 -0.001 0.012  
ar.L1 0.1211 0.006 19.662 0.000 0.109 0.133  
ar.L2 0.1296 0.006 22.365 0.000 0.118 0.141  
ar.L3 0.0664 0.007 9.462 0.000 0.053 0.080  
sigma2 19.8950 0.219 90.668 0.000 19.465 20.325  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 187374.34  
Prob(Q): 0.97 Prob(JB): 0.00  
Heteroskedasticity (H): 0.89 Skew: 1.20  
Prob(H) (two-sided): 0.12 Kurtosis: 47.45  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_40 2010-01-01 - 2013-01-04

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 784  
Model: ARIMA(0, 1, 0) Log Likelihood -2487.358  
Date: Mon, 20 May 2024 AIC 4976.715  
Time: 20:01:14 BIC 4981.378  
Sample: 0 HQIC 4978.508  
 - 784   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 33.6336 0.630 53.354 0.000 32.398 34.869  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 5264.30  
Prob(Q): 0.96 Prob(JB): 0.00  
Heteroskedasticity (H): 1.89 Skew: -0.68  
Prob(H) (two-sided): 0.00 Kurtosis: 15.63  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 784  
Model: ARIMA(5, 1, 0) Log Likelihood -2468.213  
Date: Mon, 20 May 2024 AIC 4958.426  
Time: 20:01:14 BIC 5009.721  
Sample: 0 HQIC 4978.151  
 - 784   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 -0.0214 0.143 -0.150 0.881 -0.302 0.259  
x2 -0.0062 0.003 -2.260 0.024 -0.012 -0.001  
x3 0.1275 0.572 0.223 0.824 -0.993 1.248  
x4 2.1743 0.896 2.427 0.015 0.418 3.930  
x5 -0.0068 0.013 -0.518 0.604 -0.032 0.019  
ar.L1 -0.0306 0.034 -0.903 0.367 -0.097 0.036  
ar.L2 0.1211 0.032 3.816 0.000 0.059 0.183  
ar.L3 0.0066 0.029 0.226 0.821 -0.050 0.063  
ar.L4 0.0357 0.038 0.936 0.349 -0.039 0.111  
ar.L5 0.0085 0.034 0.255 0.799 -0.057 0.074  
sigma2 32.0508 0.629 50.957 0.000 30.818 33.284  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 5960.88  
Prob(Q): 0.97 Prob(JB): 0.00  
Heteroskedasticity (H): 2.08 Skew: -0.91  
Prob(H) (two-sided): 0.00 Kurtosis: 16.39  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_40 2013-01-04 - 2021-04-15

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2158  
Model: ARIMA(0, 1, 0) Log Likelihood -5505.261  
Date: Mon, 20 May 2024 AIC 11012.522  
Time: 20:01:14 BIC 11018.199  
Sample: 0 HQIC 11014.598  
 - 2158   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 9.6473 0.046 210.941 0.000 9.558 9.737  
===================================================================================  
Ljung-Box (L1) (Q): 47.29 Jarque-Bera (JB): 591968.72  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.80 Skew: 3.33  
Prob(H) (two-sided): 0.00 Kurtosis: 83.88  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2158  
Model: ARIMA(5, 1, 0) Log Likelihood -5368.393  
Date: Mon, 20 May 2024 AIC 10758.786  
Time: 20:01:14 BIC 10821.228  
Sample: 0 HQIC 10781.626  
 - 2158   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 -0.0659 0.047 -1.402 0.161 -0.158 0.026  
x2 -0.0004 0.000 -0.986 0.324 -0.001 0.000  
x3 -0.4231 0.150 -2.813 0.005 -0.718 -0.128  
x4 1.3199 0.285 4.627 0.000 0.761 1.879  
x5 0.0044 0.003 1.302 0.193 -0.002 0.011  
ar.L1 0.0651 0.014 4.522 0.000 0.037 0.093  
ar.L2 0.2549 0.010 25.895 0.000 0.236 0.274  
ar.L3 0.1249 0.012 10.371 0.000 0.101 0.149  
ar.L4 -0.0514 0.011 -4.520 0.000 -0.074 -0.029  
ar.L5 0.0345 0.009 3.817 0.000 0.017 0.052  
sigma2 8.4651 0.084 100.917 0.000 8.301 8.629  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 341497.80  
Prob(Q): 1.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.66 Skew: 1.89  
Prob(H) (two-sided): 0.00 Kurtosis: 64.53  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_40 2021-04-15 - 2024-01-18

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 719  
Model: ARIMA(0, 1, 0) Log Likelihood -1661.366  
Date: Mon, 20 May 2024 AIC 3324.732  
Time: 20:01:14 BIC 3329.309  
Sample: 0 HQIC 3326.499  
 - 719   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 5.9887 0.092 65.259 0.000 5.809 6.169  
===================================================================================  
Ljung-Box (L1) (Q): 20.17 Jarque-Bera (JB): 14262.86  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.54 Skew: 0.70  
Prob(H) (two-sided): 0.00 Kurtosis: 24.79  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 719  
Model: ARIMA(5, 1, 0) Log Likelihood -1638.437  
Date: Mon, 20 May 2024 AIC 3298.873  
Time: 20:01:14 BIC 3349.214  
Sample: 0 HQIC 3318.310  
 - 719   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 -0.0508 0.043 -1.189 0.235 -0.134 0.033  
x2 -0.0019 0.001 -3.724 0.000 -0.003 -0.001  
x3 -0.3780 0.268 -1.408 0.159 -0.904 0.148  
x4 0.6432 0.418 1.538 0.124 -0.177 1.463  
x5 0.0049 0.006 0.802 0.423 -0.007 0.017  
ar.L1 0.1281 0.022 5.939 0.000 0.086 0.170  
ar.L2 0.0306 0.040 0.759 0.448 -0.048 0.109  
ar.L3 0.0210 0.032 0.659 0.510 -0.041 0.083  
ar.L4 -0.0053 0.029 -0.186 0.853 -0.061 0.051  
ar.L5 0.0420 0.044 0.959 0.337 -0.044 0.128  
sigma2 5.6215 0.104 54.246 0.000 5.418 5.825  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 15136.07  
Prob(Q): 0.97 Prob(JB): 0.00  
Heteroskedasticity (H): 0.59 Skew: 0.74  
Prob(H) (two-sided): 0.00 Kurtosis: 25.44  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_67 2010-01-01 - 2012-05-30

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 627  
Model: ARIMA(0, 1, 0) Log Likelihood -2059.547  
Date: Mon, 20 May 2024 AIC 4121.094  
Time: 20:01:14 BIC 4125.534  
Sample: 0 HQIC 4122.819  
 - 627   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 42.1909 1.313 32.127 0.000 39.617 44.765  
===================================================================================  
Ljung-Box (L1) (Q): 1.19 Jarque-Bera (JB): 551.03  
Prob(Q): 0.28 Prob(JB): 0.00  
Heteroskedasticity (H): 1.15 Skew: 0.31  
Prob(H) (two-sided): 0.32 Kurtosis: 7.55  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 627  
Model: ARIMA(4, 1, 0) Log Likelihood -2018.216  
Date: Mon, 20 May 2024 AIC 4058.432  
Time: 20:01:14 BIC 4107.264  
Sample: 0 HQIC 4077.405  
 - 627   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 2.6596 8.072 0.329 0.742 -13.162 18.481  
x2 -0.1820 0.167 -1.093 0.274 -0.508 0.144  
x3 -0.0086 0.004 -2.209 0.027 -0.016 -0.001  
x4 0.1757 0.532 0.330 0.741 -0.867 1.219  
x5 4.2842 1.047 4.093 0.000 2.233 6.336  
x6 -0.0106 0.013 -0.797 0.425 -0.037 0.016  
ar.L1 -0.1006 0.029 -3.449 0.001 -0.158 -0.043  
ar.L2 0.1921 0.032 5.987 0.000 0.129 0.255  
ar.L3 0.0286 0.028 1.005 0.315 -0.027 0.084  
ar.L4 0.0575 0.030 1.889 0.059 -0.002 0.117  
sigma2 36.9666 1.365 27.075 0.000 34.291 39.643  
===================================================================================  
Ljung-Box (L1) (Q): 0.02 Jarque-Bera (JB): 352.86  
Prob(Q): 0.89 Prob(JB): 0.00  
Heteroskedasticity (H): 1.18 Skew: 0.10  
Prob(H) (two-sided): 0.23 Kurtosis: 6.67  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_67 2012-05-30 - 2020-03-10

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2028  
Model: ARIMA(0, 1, 0) Log Likelihood -5004.926  
Date: Mon, 20 May 2024 AIC 10011.853  
Time: 20:01:14 BIC 10017.467  
Sample: 0 HQIC 10013.913  
 - 2028   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 8.1693 0.048 169.663 0.000 8.075 8.264  
===================================================================================  
Ljung-Box (L1) (Q): 22.64 Jarque-Bera (JB): 260842.21  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.11 Skew: 1.24  
Prob(H) (two-sided): 0.00 Kurtosis: 58.52  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2028  
Model: ARIMA(4, 1, 0) Log Likelihood -4926.137  
Date: Mon, 20 May 2024 AIC 9874.274  
Time: 20:01:14 BIC 9936.031  
Sample: 0 HQIC 9896.934  
 - 2028   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 3.0650 0.863 3.553 0.000 1.374 4.756  
x2 -0.0740 0.060 -1.234 0.217 -0.192 0.044  
x3 -0.0016 0.001 -2.488 0.013 -0.003 -0.000  
x4 -0.0834 0.210 -0.398 0.691 -0.494 0.327  
x5 1.2535 0.295 4.251 0.000 0.676 1.831  
x6 0.0029 0.005 0.595 0.552 -0.007 0.012  
ar.L1 0.0608 0.013 4.515 0.000 0.034 0.087  
ar.L2 0.1323 0.018 7.313 0.000 0.097 0.168  
ar.L3 0.0891 0.016 5.448 0.000 0.057 0.121  
ar.L4 0.0556 0.014 3.888 0.000 0.028 0.084  
sigma2 7.5580 0.075 100.604 0.000 7.411 7.705  
===================================================================================  
Ljung-Box (L1) (Q): 0.05 Jarque-Bera (JB): 196769.68  
Prob(Q): 0.82 Prob(JB): 0.00  
Heteroskedasticity (H): 0.11 Skew: 0.85  
Prob(H) (two-sided): 0.00 Kurtosis: 51.24  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_67 2020-03-10 - 2024-01-18

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1006  
Model: ARIMA(0, 1, 0) Log Likelihood -2935.915  
Date: Mon, 20 May 2024 AIC 5873.829  
Time: 20:01:14 BIC 5878.742  
Sample: 0 HQIC 5875.696  
 - 1006   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 20.1809 0.109 184.456 0.000 19.966 20.395  
===================================================================================  
Ljung-Box (L1) (Q): 34.42 Jarque-Bera (JB): 757558.31  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.15 Skew: 6.95  
Prob(H) (two-sided): 0.00 Kurtosis: 136.78  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1006  
Model: ARIMA(4, 1, 0) Log Likelihood -2885.432  
Date: Mon, 20 May 2024 AIC 5792.864  
Time: 20:01:14 BIC 5846.905  
Sample: 0 HQIC 5813.399  
 - 1006   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 -2.7327 2.820 -0.969 0.333 -8.260 2.795  
x2 -0.0621 0.098 -0.630 0.528 -0.255 0.131  
x3 -0.0010 0.001 -1.891 0.059 -0.002 3.82e-05  
x4 0.0169 0.419 0.040 0.968 -0.804 0.838  
x5 1.8421 0.572 3.219 0.001 0.720 2.964  
x6 0.0012 0.009 0.140 0.889 -0.016 0.018  
ar.L1 0.1632 0.037 4.447 0.000 0.091 0.235  
ar.L2 0.1956 0.014 13.891 0.000 0.168 0.223  
ar.L3 -0.0987 0.011 -8.695 0.000 -0.121 -0.076  
ar.L4 0.0597 0.015 3.899 0.000 0.030 0.090  
sigma2 18.2589 0.248 73.484 0.000 17.772 18.746  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 548132.10  
Prob(Q): 0.97 Prob(JB): 0.00  
Heteroskedasticity (H): 0.21 Skew: 6.21  
Prob(H) (two-sided): 0.00 Kurtosis: 116.73  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_69 2010-01-01 - 2012-01-23

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 535  
Model: ARIMA(0, 1, 0) Log Likelihood -1755.613  
Date: Mon, 20 May 2024 AIC 3513.225  
Time: 20:01:14 BIC 3517.506  
Sample: 0 HQIC 3514.900  
 - 535   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 41.9908 1.405 29.878 0.000 39.236 44.745  
===================================================================================  
Ljung-Box (L1) (Q): 2.92 Jarque-Bera (JB): 489.37  
Prob(Q): 0.09 Prob(JB): 0.00  
Heteroskedasticity (H): 0.93 Skew: 0.44  
Prob(H) (two-sided): 0.64 Kurtosis: 7.61  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 535  
Model: ARIMA(4, 1, 0) Log Likelihood -1716.709  
Date: Mon, 20 May 2024 AIC 3455.418  
Time: 20:01:14 BIC 3502.502  
Sample: 0 HQIC 3473.841  
 - 535   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 3.9612 8.000 0.495 0.620 -11.718 19.640  
x2 -0.1180 0.176 -0.671 0.502 -0.463 0.227  
x3 -0.0094 0.004 -2.227 0.026 -0.018 -0.001  
x4 0.2284 0.554 0.412 0.680 -0.857 1.314  
x5 5.3164 1.146 4.639 0.000 3.070 7.562  
x6 -0.0122 0.014 -0.903 0.366 -0.039 0.014  
ar.L1 -0.1224 0.033 -3.749 0.000 -0.186 -0.058  
ar.L2 0.1672 0.035 4.844 0.000 0.100 0.235  
ar.L3 0.0272 0.031 0.888 0.374 -0.033 0.087  
ar.L4 0.0575 0.034 1.669 0.095 -0.010 0.125  
sigma2 36.2932 1.504 24.137 0.000 33.346 39.240  
===================================================================================  
Ljung-Box (L1) (Q): 0.03 Jarque-Bera (JB): 269.28  
Prob(Q): 0.87 Prob(JB): 0.00  
Heteroskedasticity (H): 0.94 Skew: 0.14  
Prob(H) (two-sided): 0.69 Kurtosis: 6.47  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_69 2012-01-23 - 2020-03-10

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2120  
Model: ARIMA(0, 1, 0) Log Likelihood -5425.582  
Date: Mon, 20 May 2024 AIC 10853.163  
Time: 20:01:14 BIC 10858.822  
Sample: 0 HQIC 10855.235  
 - 2120   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 9.8061 0.065 151.969 0.000 9.680 9.933  
===================================================================================  
Ljung-Box (L1) (Q): 22.26 Jarque-Bera (JB): 156017.71  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.09 Skew: 0.72  
Prob(H) (two-sided): 0.00 Kurtosis: 45.01  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2120  
Model: ARIMA(4, 1, 0) Log Likelihood -5345.238  
Date: Mon, 20 May 2024 AIC 10712.476  
Time: 20:01:14 BIC 10774.722  
Sample: 0 HQIC 10735.265  
 - 2120   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 2.8223 0.916 3.081 0.002 1.027 4.618  
x2 -0.0937 0.067 -1.402 0.161 -0.225 0.037  
x3 -0.0019 0.001 -2.636 0.008 -0.003 -0.000  
x4 -0.0234 0.221 -0.106 0.916 -0.457 0.410  
x5 1.0581 0.331 3.201 0.001 0.410 1.706  
x6 0.0027 0.005 0.506 0.613 -0.008 0.013  
ar.L1 0.0542 0.013 4.128 0.000 0.028 0.080  
ar.L2 0.1532 0.012 12.703 0.000 0.130 0.177  
ar.L3 0.0579 0.014 4.138 0.000 0.030 0.085  
ar.L4 0.0671 0.012 5.636 0.000 0.044 0.090  
sigma2 9.0884 0.087 104.952 0.000 8.919 9.258  
===================================================================================  
Ljung-Box (L1) (Q): 0.05 Jarque-Bera (JB): 128638.33  
Prob(Q): 0.83 Prob(JB): 0.00  
Heteroskedasticity (H): 0.09 Skew: 0.51  
Prob(H) (two-sided): 0.00 Kurtosis: 41.16  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_69 2020-03-10 - 2023-10-10

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 934  
Model: ARIMA(0, 1, 0) Log Likelihood -2817.026  
Date: Mon, 20 May 2024 AIC 5636.052  
Time: 20:01:14 BIC 5640.891  
Sample: 0 HQIC 5637.897  
 - 934   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 24.5512 0.147 167.393 0.000 24.264 24.839  
===================================================================================  
Ljung-Box (L1) (Q): 14.65 Jarque-Bera (JB): 549967.22  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.33 Skew: 6.17  
Prob(H) (two-sided): 0.00 Kurtosis: 121.30  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 934  
Model: ARIMA(4, 1, 0) Log Likelihood -2762.334  
Date: Mon, 20 May 2024 AIC 5546.668  
Time: 20:01:14 BIC 5599.890  
Sample: 0 HQIC 5566.964  
 - 934   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 -0.8275 2.849 -0.290 0.771 -6.412 4.757  
x2 -0.0495 0.093 -0.530 0.596 -0.232 0.133  
x3 -0.0026 0.001 -4.206 0.000 -0.004 -0.001  
x4 -0.4604 0.544 -0.847 0.397 -1.526 0.605  
x5 1.0597 0.772 1.372 0.170 -0.454 2.573  
x6 -0.0037 0.010 -0.383 0.702 -0.023 0.015  
ar.L1 0.1030 0.029 3.573 0.000 0.046 0.159  
ar.L2 0.1962 0.013 15.255 0.000 0.171 0.221  
ar.L3 -0.1422 0.011 -13.075 0.000 -0.164 -0.121  
ar.L4 0.1105 0.019 5.958 0.000 0.074 0.147  
sigma2 21.8178 0.301 72.593 0.000 21.229 22.407  
===================================================================================  
Ljung-Box (L1) (Q): 0.19 Jarque-Bera (JB): 443497.64  
Prob(Q): 0.67 Prob(JB): 0.00  
Heteroskedasticity (H): 0.43 Skew: 5.94  
Prob(H) (two-sided): 0.00 Kurtosis: 109.15  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_124 2010-01-01 - 2018-02-20

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2121  
Model: ARIMA(0, 1, 0) Log Likelihood -3986.296  
Date: Mon, 20 May 2024 AIC 7974.591  
Time: 20:01:14 BIC 7980.250  
Sample: 0 HQIC 7976.663  
 - 2121   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 2.5163 0.025 100.638 0.000 2.467 2.565  
===================================================================================  
Ljung-Box (L1) (Q): 13.52 Jarque-Bera (JB): 25910.89  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.14 Skew: -0.53  
Prob(H) (two-sided): 0.00 Kurtosis: 20.09  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2121  
Model: ARIMA(3, 1, 0) Log Likelihood -3776.832  
Date: Mon, 20 May 2024 AIC 7571.664  
Time: 20:01:14 BIC 7622.596  
Sample: 0 HQIC 7590.310  
 - 2121   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 -0.1958 0.025 -7.964 0.000 -0.244 -0.148  
x2 -0.0036 0.000 -8.316 0.000 -0.005 -0.003  
x3 -0.3343 0.073 -4.560 0.000 -0.478 -0.191  
x4 1.6411 0.136 12.079 0.000 1.375 1.907  
x5 0.0036 0.002 2.254 0.024 0.000 0.007  
ar.L1 0.0405 0.010 3.868 0.000 0.020 0.061  
ar.L2 -0.0488 0.011 -4.259 0.000 -0.071 -0.026  
ar.L3 -0.0630 0.013 -4.895 0.000 -0.088 -0.038  
sigma2 2.0646 0.029 71.766 0.000 2.008 2.121  
===================================================================================  
Ljung-Box (L1) (Q): 0.07 Jarque-Bera (JB): 21956.50  
Prob(Q): 0.79 Prob(JB): 0.00  
Heteroskedasticity (H): 0.18 Skew: -0.77  
Prob(H) (two-sided): 0.00 Kurtosis: 18.69  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_124 2018-02-20 - 2020-03-05

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 531  
Model: ARIMA(0, 1, 0) Log Likelihood -604.301  
Date: Mon, 20 May 2024 AIC 1210.602  
Time: 20:01:14 BIC 1214.875  
Sample: 0 HQIC 1212.275  
 - 531   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 0.5726 0.017 34.680 0.000 0.540 0.605  
===================================================================================  
Ljung-Box (L1) (Q): 14.60 Jarque-Bera (JB): 1308.28  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.88 Skew: 1.55  
Prob(H) (two-sided): 0.41 Kurtosis: 10.05  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 531  
Model: ARIMA(3, 1, 0) Log Likelihood -576.233  
Date: Mon, 20 May 2024 AIC 1170.466  
Time: 20:01:14 BIC 1208.922  
Sample: 0 HQIC 1185.518  
 - 531   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 -0.0912 0.025 -3.701 0.000 -0.140 -0.043  
x2 -0.0006 0.000 -3.452 0.001 -0.001 -0.000  
x3 -0.0953 0.082 -1.157 0.247 -0.257 0.066  
x4 0.5099 0.149 3.414 0.001 0.217 0.803  
x5 0.0015 0.002 0.723 0.470 -0.003 0.006  
ar.L1 0.1746 0.050 3.523 0.000 0.077 0.272  
ar.L2 0.0051 0.048 0.108 0.914 -0.088 0.098  
ar.L3 0.0409 0.052 0.791 0.429 -0.060 0.142  
sigma2 0.5146 0.015 34.863 0.000 0.486 0.544  
===================================================================================  
Ljung-Box (L1) (Q): 0.01 Jarque-Bera (JB): 2365.01  
Prob(Q): 0.94 Prob(JB): 0.00  
Heteroskedasticity (H): 0.77 Skew: 1.76  
Prob(H) (two-sided): 0.09 Kurtosis: 12.73  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_124 2020-03-05 - 2023-06-05

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 846  
Model: ARIMA(0, 1, 0) Log Likelihood -1439.280  
Date: Mon, 20 May 2024 AIC 2880.561  
Time: 20:01:14 BIC 2885.300  
Sample: 0 HQIC 2882.377  
 - 846   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 1.7660 0.017 101.154 0.000 1.732 1.800  
===================================================================================  
Ljung-Box (L1) (Q): 0.58 Jarque-Bera (JB): 77869.01  
Prob(Q): 0.44 Prob(JB): 0.00  
Heteroskedasticity (H): 0.21 Skew: 3.33  
Prob(H) (two-sided): 0.00 Kurtosis: 49.55  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 846  
Model: ARIMA(3, 1, 0) Log Likelihood -1345.337  
Date: Mon, 20 May 2024 AIC 2708.674  
Time: 20:01:14 BIC 2751.328  
Sample: 0 HQIC 2725.017  
 - 846   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 -0.0807 0.015 -5.434 0.000 -0.110 -0.052  
x2 -0.0018 0.000 -9.987 0.000 -0.002 -0.001  
x3 0.2254 0.095 2.370 0.018 0.039 0.412  
x4 0.4508 0.169 2.660 0.008 0.119 0.783  
x5 -0.0046 0.002 -2.867 0.004 -0.008 -0.001  
ar.L1 -0.0198 0.012 -1.650 0.099 -0.043 0.004  
ar.L2 -0.0046 0.022 -0.209 0.835 -0.048 0.039  
ar.L3 0.1679 0.017 9.828 0.000 0.134 0.201  
sigma2 1.4132 0.032 43.766 0.000 1.350 1.477  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 30040.87  
Prob(Q): 0.98 Prob(JB): 0.00  
Heteroskedasticity (H): 0.28 Skew: 1.78  
Prob(H) (two-sided): 0.00 Kurtosis: 31.99  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_136 2010-01-01 - 2013-11-14

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1008  
Model: ARIMA(0, 1, 0) Log Likelihood -2906.756  
Date: Mon, 20 May 2024 AIC 5815.513  
Time: 20:01:14 BIC 5820.428  
Sample: 0 HQIC 5817.380  
 - 1008   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 18.8257 0.480 39.228 0.000 17.885 19.766  
===================================================================================  
Ljung-Box (L1) (Q): 1.02 Jarque-Bera (JB): 727.31  
Prob(Q): 0.31 Prob(JB): 0.00  
Heteroskedasticity (H): 1.36 Skew: -0.33  
Prob(H) (two-sided): 0.00 Kurtosis: 7.11  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1008  
Model: ARIMA(3, 1, 0) Log Likelihood -2831.139  
Date: Mon, 20 May 2024 AIC 5678.277  
Time: 20:01:14 BIC 5717.595  
Sample: 0 HQIC 5693.216  
 - 1008   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 -0.5537 0.086 -6.432 0.000 -0.722 -0.385  
x2 -1.0363 0.348 -2.977 0.003 -1.719 -0.354  
x3 4.4803 0.546 8.209 0.000 3.411 5.550  
x4 0.0050 0.007 0.757 0.449 -0.008 0.018  
ar.L1 -0.0974 0.022 -4.407 0.000 -0.141 -0.054  
ar.L2 -0.0794 0.025 -3.153 0.002 -0.129 -0.030  
ar.L3 -0.0575 0.026 -2.213 0.027 -0.108 -0.007  
sigma2 16.1991 0.470 34.468 0.000 15.278 17.120  
===================================================================================  
Ljung-Box (L1) (Q): 0.02 Jarque-Bera (JB): 507.57  
Prob(Q): 0.88 Prob(JB): 0.00  
Heteroskedasticity (H): 1.77 Skew: -0.36  
Prob(H) (two-sided): 0.00 Kurtosis: 6.40  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_136 2013-11-14 - 2016-01-01

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 555  
Model: ARIMA(0, 1, 0) Log Likelihood -1438.623  
Date: Mon, 20 May 2024 AIC 2879.245  
Time: 20:01:14 BIC 2883.563  
Sample: 0 HQIC 2880.932  
 - 555   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 10.5456 0.072 147.242 0.000 10.405 10.686  
===================================================================================  
Ljung-Box (L1) (Q): 80.28 Jarque-Bera (JB): 551560.24  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 1.43 Skew: 1.59  
Prob(H) (two-sided): 0.02 Kurtosis: 157.55  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 555  
Model: ARIMA(3, 1, 0) Log Likelihood -1368.824  
Date: Mon, 20 May 2024 AIC 2753.647  
Time: 20:01:14 BIC 2788.184  
Sample: 0 HQIC 2767.140  
 - 555   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 -0.3176 0.144 -2.209 0.027 -0.599 -0.036  
x2 0.4773 0.432 1.106 0.269 -0.368 1.323  
x3 0.9873 1.003 0.984 0.325 -0.980 2.954  
x4 0.0243 0.016 1.484 0.138 -0.008 0.056  
ar.L1 -0.4989 0.022 -22.583 0.000 -0.542 -0.456  
ar.L2 -0.2467 0.032 -7.746 0.000 -0.309 -0.184  
ar.L3 -0.0721 0.040 -1.821 0.069 -0.150 0.005  
sigma2 8.1925 0.225 36.439 0.000 7.752 8.633  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 446626.17  
Prob(Q): 0.97 Prob(JB): 0.00  
Heteroskedasticity (H): 1.45 Skew: 7.08  
Prob(H) (two-sided): 0.01 Kurtosis: 141.38  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_136 2016-01-01 - 2024-01-18

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2098  
Model: ARIMA(0, 1, 0) Log Likelihood -4832.578  
Date: Mon, 20 May 2024 AIC 9667.156  
Time: 20:01:14 BIC 9672.804  
Sample: 0 HQIC 9669.225  
 - 2098   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 5.8777 0.025 236.194 0.000 5.829 5.926  
===================================================================================  
Ljung-Box (L1) (Q): 68.89 Jarque-Bera (JB): 954047.66  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.23 Skew: 0.61  
Prob(H) (two-sided): 0.00 Kurtosis: 107.49  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 2098  
Model: ARIMA(3, 1, 0) Log Likelihood -4750.180  
Date: Mon, 20 May 2024 AIC 9516.360  
Time: 20:01:14 BIC 9561.546  
Sample: 0 HQIC 9532.911  
 - 2098   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 -0.1612 0.023 -7.081 0.000 -0.206 -0.117  
x2 0.0158 0.138 0.115 0.909 -0.255 0.286  
x3 1.4620 0.201 7.258 0.000 1.067 1.857  
x4 0.0008 0.002 0.322 0.747 -0.004 0.005  
ar.L1 -0.2177 0.005 -40.940 0.000 -0.228 -0.207  
ar.L2 0.0183 0.013 1.391 0.164 -0.007 0.044  
ar.L3 0.0732 0.015 4.995 0.000 0.044 0.102  
sigma2 5.4332 0.037 147.123 0.000 5.361 5.506  
===================================================================================  
Ljung-Box (L1) (Q): 2.02 Jarque-Bera (JB): 598235.08  
Prob(Q): 0.16 Prob(JB): 0.00  
Heteroskedasticity (H): 0.30 Skew: 1.68  
Prob(H) (two-sided): 0.00 Kurtosis: 85.68  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_153 2010-01-01 - 2013-11-18

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1010  
Model: ARIMA(0, 1, 0) Log Likelihood -2962.732  
Date: Mon, 20 May 2024 AIC 5927.465  
Time: 20:01:14 BIC 5932.382  
Sample: 0 HQIC 5929.333  
 - 1010   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 20.7954 0.314 66.143 0.000 20.179 21.412  
===================================================================================  
Ljung-Box (L1) (Q): 6.96 Jarque-Bera (JB): 9954.85  
Prob(Q): 0.01 Prob(JB): 0.00  
Heteroskedasticity (H): 1.20 Skew: 0.95  
Prob(H) (two-sided): 0.10 Kurtosis: 18.27  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 1010  
Model: ARIMA(6, 1, 0) Log Likelihood -2893.976  
Date: Mon, 20 May 2024 AIC 5809.952  
Time: 20:01:14 BIC 5864.036  
Sample: 0 HQIC 5830.499  
 - 1010   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 0.0526 0.104 0.507 0.612 -0.151 0.256  
x2 -0.0088 0.002 -3.907 0.000 -0.013 -0.004  
x3 0.1929 0.363 0.531 0.595 -0.519 0.905  
x4 0.8566 0.498 1.721 0.085 -0.119 1.832  
ar.L1 0.0483 0.021 2.308 0.021 0.007 0.089  
ar.L2 0.2258 0.020 11.559 0.000 0.188 0.264  
ar.L3 0.0122 0.025 0.481 0.630 -0.038 0.062  
ar.L4 0.0477 0.028 1.730 0.084 -0.006 0.102  
ar.L5 -0.0387 0.025 -1.540 0.124 -0.088 0.011  
ar.L6 0.0941 0.026 3.612 0.000 0.043 0.145  
sigma2 18.1396 0.350 51.889 0.000 17.454 18.825  
===================================================================================  
Ljung-Box (L1) (Q): 0.01 Jarque-Bera (JB): 7859.44  
Prob(Q): 0.91 Prob(JB): 0.00  
Heteroskedasticity (H): 1.12 Skew: 1.04  
Prob(H) (two-sided): 0.30 Kurtosis: 16.51  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_153 2013-11-18 - 2015-12-28

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 549  
Model: ARIMA(0, 1, 0) Log Likelihood -1518.076  
Date: Mon, 20 May 2024 AIC 3038.152  
Time: 20:01:14 BIC 3042.458  
Sample: 0 HQIC 3039.835  
 - 549   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 14.9176 0.332 44.914 0.000 14.267 15.569  
===================================================================================  
Ljung-Box (L1) (Q): 101.76 Jarque-Bera (JB): 3697.30  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 0.19 Skew: -0.38  
Prob(H) (two-sided): 0.00 Kurtosis: 15.70  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 549  
Model: ARIMA(6, 1, 0) Log Likelihood -1443.541  
Date: Mon, 20 May 2024 AIC 2909.082  
Time: 20:01:14 BIC 2956.451  
Sample: 0 HQIC 2927.596  
 - 549   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 -0.2142 0.095 -2.246 0.025 -0.401 -0.027  
x2 -0.0034 0.002 -1.842 0.066 -0.007 0.000  
x3 0.4130 0.417 0.990 0.322 -0.405 1.231  
x4 0.6950 0.919 0.757 0.449 -1.105 2.495  
ar.L1 -0.5143 0.025 -20.636 0.000 -0.563 -0.465  
ar.L2 -0.1634 0.031 -5.289 0.000 -0.224 -0.103  
ar.L3 0.0150 0.033 0.454 0.650 -0.050 0.080  
ar.L4 -0.0031 0.030 -0.103 0.918 -0.062 0.056  
ar.L5 -0.0601 0.032 -1.863 0.062 -0.123 0.003  
ar.L6 -0.0111 0.028 -0.397 0.692 -0.066 0.044  
sigma2 11.3556 0.299 38.029 0.000 10.770 11.941  
===================================================================================  
Ljung-Box (L1) (Q): 0.03 Jarque-Bera (JB): 2807.37  
Prob(Q): 0.87 Prob(JB): 0.00  
Heteroskedasticity (H): 0.22 Skew: -1.69  
Prob(H) (two-sided): 0.00 Kurtosis: 13.56  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_153 2015-12-28 - 2018-02-06

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 550  
Model: ARIMA(0, 1, 0) Log Likelihood -947.178  
Date: Mon, 20 May 2024 AIC 1896.357  
Time: 20:01:14 BIC 1900.665  
Sample: 0 HQIC 1898.040  
 - 550   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 1.8454 0.026 71.423 0.000 1.795 1.896  
===================================================================================  
Ljung-Box (L1) (Q): 2.76 Jarque-Bera (JB): 29784.47  
Prob(Q): 0.10 Prob(JB): 0.00  
Heteroskedasticity (H): 0.53 Skew: 0.34  
Prob(H) (two-sided): 0.00 Kurtosis: 39.08  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 550  
Model: ARIMA(6, 1, 0) Log Likelihood -931.938  
Date: Mon, 20 May 2024 AIC 1885.876  
Time: 20:01:14 BIC 1933.265  
Sample: 0 HQIC 1904.396  
 - 550   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 -0.0409 0.074 -0.554 0.580 -0.186 0.104  
x2 -0.0011 0.001 -1.399 0.162 -0.003 0.000  
x3 -0.4482 0.201 -2.233 0.026 -0.842 -0.055  
x4 0.5186 0.477 1.087 0.277 -0.417 1.454  
ar.L1 0.0280 0.057 0.487 0.626 -0.085 0.141  
ar.L2 0.0871 0.050 1.738 0.082 -0.011 0.185  
ar.L3 0.0502 0.072 0.699 0.484 -0.090 0.191  
ar.L4 0.0783 0.040 1.953 0.051 -0.000 0.157  
ar.L5 0.0591 0.047 1.246 0.213 -0.034 0.152  
ar.L6 0.0328 0.065 0.504 0.615 -0.095 0.160  
sigma2 1.7408 0.034 51.663 0.000 1.675 1.807  
===================================================================================  
Ljung-Box (L1) (Q): 0.01 Jarque-Bera (JB): 30955.11  
Prob(Q): 0.92 Prob(JB): 0.00  
Heteroskedasticity (H): 0.55 Skew: 0.29  
Prob(H) (two-sided): 0.00 Kurtosis: 39.78  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

Column: India\_153 2018-02-06 - 2020-03-17

# ARIMA(0,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 549  
Model: ARIMA(0, 1, 0) Log Likelihood -1179.794  
Date: Mon, 20 May 2024 AIC 2361.589  
Time: 20:01:14 BIC 2365.895  
Sample: 0 HQIC 2363.272  
 - 549   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
sigma2 4.3403 0.047 91.536 0.000 4.247 4.433  
===================================================================================  
Ljung-Box (L1) (Q): 121.02 Jarque-Bera (JB): 80311.04  
Prob(Q): 0.00 Prob(JB): 0.00  
Heteroskedasticity (H): 4.04 Skew: 5.87  
Prob(H) (two-sided): 0.00 Kurtosis: 61.13  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).

# ARIMA(1,1,0) Summary:

SARIMAX Results   
==============================================================================  
Dep. Variable: y No. Observations: 549  
Model: ARIMA(6, 1, 0) Log Likelihood -1057.866  
Date: Mon, 20 May 2024 AIC 2137.733  
Time: 20:01:14 BIC 2185.102  
Sample: 0 HQIC 2156.247  
 - 549   
Covariance Type: opg   
==============================================================================  
 coef std err z P>|z| [0.025 0.975]  
------------------------------------------------------------------------------  
x1 -0.0609 0.047 -1.300 0.193 -0.153 0.031  
x2 -0.0016 0.000 -4.011 0.000 -0.002 -0.001  
x3 0.0235 0.233 0.101 0.920 -0.434 0.481  
x4 0.3528 0.354 0.996 0.319 -0.341 1.047  
ar.L1 0.3671 0.031 11.711 0.000 0.306 0.429  
ar.L2 0.1333 0.041 3.270 0.001 0.053 0.213  
ar.L3 0.3344 0.038 8.702 0.000 0.259 0.410  
ar.L4 0.0200 0.052 0.384 0.701 -0.082 0.122  
ar.L5 -0.0612 0.066 -0.928 0.353 -0.190 0.068  
ar.L6 0.0647 0.066 0.977 0.329 -0.065 0.195  
sigma2 2.7845 0.090 30.908 0.000 2.608 2.961  
===================================================================================  
Ljung-Box (L1) (Q): 0.00 Jarque-Bera (JB): 6941.21  
Prob(Q): 1.00 Prob(JB): 0.00  
Heteroskedasticity (H): 1.56 Skew: 2.66  
Prob(H) (two-sided): 0.00 Kurtosis: 19.60  
===================================================================================  
  
Warnings:  
[1] Covariance matrix calculated using the outer product of gradients (complex-step).